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| UTILITY |
|--------------------|
| PATENT APPLICATION |
| TRANSMITTAL |

| Attorney Docket No. | | No. | 4041K-000149 | |
|---------------------|---------|-------|----------------------|---|
| First Inventor Mas | | Mas | sahiro SHIMOYA et al | |
| Title | Heat Ex | chang | jer | : |

EL 623 598 861 US Express Mail Label No. (Only for new nonprovisional applications under 37 C.F.R. 1.53(b)) Mail Stop Patent Application APPLICATION ELEMENTS Commissioner for Patents ADDRESS TO: P.O. Box 1450 See MPEP chapter 600 concerning utility patent application contents. Alexandria, VA 22313-1450 7. CD-ROM or CD-R in duplicate, large table or 1. 🛛 Fee Transmittal Form (e.g., PTO/SB/17) (Submit an original and a duplicate for fee processing) Computer Program (Appendix) 2. Applicant claims small entity status. 8. Nucleotide and/or Amino Acid Sequence Submission See 37 CFR 1.27. (if applicable, all necessary) a. Computer Readable Form (CRF) з. 🔯 Specification [Total Pages] (preferred arrangement set forth below) Specification Sequence Listing on: - Descriptive title of the Invention i. CD-ROM or CD-R (2 copies); or Specification - Cross References to Related Applications filed in English ii. D paper - Statement Regarding Fed sponsored R & D c.

Statements verifying identity of above copies - Reference to sequence listing, a table, or a computer program listing appendix - Background of the Invention **ACCOMPANYING APPLICATIONS PARTS** Brief Summary of the Invention
 Brief Description of the Drawings (if filed) 9. 🛛 Assignment Papers (cover sheet & document(s)) 10. 37 C.F.R.§3.73(b) Statement Power of - Detailed Description (when there is an assignee) Attorney - Claim(s) - Abstract of the Disclosure 11. English Translation Document (if applicable) 12. 🛛 4. Drawing(s) (35 U.S.C.113) [Total Sheets 13 Information Disclosure] Statement (IDS)/PTO-1449 Citations 5. Oath or Declaration [Total Pages | 3 13. 🔲 Preliminary Amendment a. Newly executed (original or copy) 14. 🛛 Return Receipt Postcard (MPEP 503) b. Copy from a prior application (37 CFR 1.63 (d)) (Should be specifically itemized) (for a continuation/divisional with Box 18 completed) 15. 🛛 Certified Copy of Priority Document(s) i. DELETION OF INVENTOR(S) (if foreign priority is claimed) Signed statement attached deleting inventor(s) 16. Request and Non Publication under 35 U.S.C. 122 named in the prior application, see 37 CFR (b)(2)(B)(i). Applicant must attach form PTO/SB/35 1.63(d)(2) and 1.33(b). or its equivalent. 6. Application Data Sheet. See 37 CFR 1.76 17. Other: 18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76: ☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: ____ Prior application information: Examiner Group / Art Unit: For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts. 17. CORRESPONDENCE ADDRESS ☐ Correspondence address below Customer Number or Bar Code Label (Insert Customer No. or Attach bar code label here) Harness, Dickey & Pierce, P.L.C. Name P.O. Box 828 Address City 48303 Bloomfield Hills State MI Zip Code United States of America 248-641-1600 Fax 248-641-0270 Country Telephone Name (Print/Type) Michael J. Schmidt, Esq. Registration No. (Attorney/Agent) 34,007 Date August 26, 2003 Signature

PTO/SB/17 (01-03)

Approved for use through 10/31/2002. OMB 0651-0032

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| FFF TDANICMITTAL | | Complete if Known | | | |
|--|----------------------|---|--|--|--|
| FEE TRANSMITTAL | Application Number | unassigned yet August 26, 2003 Masahiro SHIMOYA et al | | | |
| for FY 2003 | Filing Date | | | | |
| | First Named Inventor | | | | |
| Patent fees are subject to annual revision. | Examiner Name | | | | |
| ☐ Applicant claims small entity status. See 37 CFR 1.: | 27 Group / Art Unit | | | | |
| TOTAL AMOUNT OF PAYMENT (\$) 790 | Attorney Docket No. | 4041K-000149 | | | |
| METHOD OF PAYMENT (check all that apply) | | FEE CALCULATION (continued) | | | |
| | 3. ADDITIONAL FEES | | | | |

| METHOD OF PAYMENT (check all that apply) | | | | FEE CALCULATION (continued) | | | | |
|---|---|--|------|-----------------------------|-------------|---------------|--|----------|
| METIOD OF PATMENT (Check all that apply) | | | | 3. ADDITIONAL FEES | | | | |
| ☑ Check ☐ Credit card ☐ Money ☐ Other ☐ None Order | | | | Large Entity Small Entity | | | | |
| Deposit Account: | | | | Fee (\$) | Fee Code | Fee (\$) | Fee Description | Fee Paid |
| Deposit Account | 08-0750 | | 1051 | 130 | 2051 | 65 | Surcharge - late filing fee or oath | |
| Number | | | 1052 | 50 | 2052 | 25 | Surcharge - late provisional filing fee or cover sheet. | |
| Deposit | | | | 130 | 1053 | 130 | Non-English specification | |
| Account Harness, Dickey & Pierce, P.L.C. | | | 1812 | 2,520 | 1812 | 2,520 | For filing a request for reexamination | |
| Name The Commission | ner is autho | urized to: (check all that apply) | 1804 | 920* | 1804 | 920* | Requesting publication of SIR prior to Examiner action | |
| The Commissioner is authorized to: (check all that apply) ☐ Charge fee(s) indicated below ☐ Credit any overpayments ☐ Charge any additional fee(s) during the pendency of this application | | | | 1,840* | 1805 | 1,840* | Requesting publication of SIR after Examiner action | |
| | | low, except for the filing fee | 1251 | 110 | 2251 | 55 | Extension for reply within first month | \vdash |
| to the above-iden | tified deposi | t account. | 1252 | 410 | 2252 | 205 | Extension for reply within second | \vdash |
| | FE | E CALCULATION | | | | | month | 1 |
| 1. BASIC FI | LING FEE | | 1253 | 930 | 2253 | 465 | Extension for reply within third month | |
| Large Entity | Small Entity | - | 1254 | 1,450 | 2254 | 725 | Extension for reply within fourth month | |
| | Fee Fee Code (\$) | | 1255 | 1,970 | 2255 | 985 | Extension for reply within fifth month | |
| | 2001 (7) | | 1401 | 320 | 2401 | 160 | Notice of Appeal | |
| | 2002 165 | | 1402 | 320 | 2402 | 160 | Filing a brief in support of an appeal | |
| | 2002 100 | · · · · · · · · · · · · · · · · · · · | 1403 | 280 | 2403 | 140 | Request for oral hearing | |
| 1004 750 | 2004 375 | 5 Reissue filing fee | 1451 | 1,510 | 1451 | 1,510 | Petition to institute a public use proceeding | |
| 1005 160 2005 80 Provisional filling fee | | | 1452 | 110 | 2452 | 55 | Petition to revive – unavoidable | |
| (C) 750 | | | | 1,300 | 2453 | 650 | Petition to revive – unintentional | |
| SUBTOTAL (1) (\$) 750 | | | | 1,300 | 2501 | 650 | Utility issue fee (or reissue) | |
| 2. EXTRA CLAIR | M FEES | | 1502 | 470 | 2502 | 235 | Design issue fee | |
| | | Extra Fee from Fee | 1503 | 630 | 2503 | 315 | Plant issue fee | |
| Total Claims 15 | -20 ** | = Claims below = Paid = 0 | 1460 | 130 | 1460 | 130 | Petitions to the Commissioner | |
| Independent | ======================================= | | 1807 | 50 | 1807 | 50 | Processing fee under 37 CFR 1.17 (q) | |
| Ctaims 1 | -3** | = 0 X = 0 | 1806 | 180 | 1806 | 180 | Submission of Information Disclosure Stmt | |
| Multiple Dependent Large Entity | ı Small E | X = 0 | 8021 | 40 | 8021 | 40 | Recording each patent assignment per property (times number of properties) | 40 |
| Fee Fee Code (\$) | Fee Code | Fee Description | 1809 | 750 | 2809 | 375 | Filing a submission after final rejection (37 CFR § 1.129(a)) | - |
| 1202 18 | 2202 | 9 Claims in excess of 20 | 1810 | 750 | 2810 | 375 | For each additional invention to be | |
| 1201 84 | 2201 | 42 Independent claims in excess of 3 | . 1 | | l | | examined (37 CFR § 1.129(b)) | |
| 1203 280 | 2203 | 140 Multiple dependent claim, if not paid | 1001 | 750 | 2801 | 375 | Request for Continued Examination (RCE) | |
| 1204 84 | 2204 | ** Reissue independent claims over original patent | 1802 | 900 | 1802 | 900 | Request for expedited examination of a design application | |
| 1205 18 | | | | | | | - | |
| SUBTOTAL (2) (\$) 0 | | | | | | - - Fr - T | -id CUDTOTAL (B) | |
| **or number pre | viously paid, | , if greater; For Reissues, see above | Redi | iced by B | asic Filin | g ree P | aid SUBTOTAL (3) (\$) 40 | |

| SUBMITTED BY | | Complete (if applicable) | | | | |
|-------------------|--------------------------|----------------------------------|--------|-----------|-----------------|--|
| Name (Print/Type) | Michael J. Schmidt, Esq. | Registration No. Attorney/Agent) | 34,007 | Telephone | 248-641-1600 | |
| Signature | 2 | | >< | Date | August 26, 2003 | |